REMARKS

Independent claims 89, 111 each has been amended to add the feature of "deactivating, before the fault is repaired , any of the protection paths for providing an alternative to those parts of the worker path not affected by the fault". Basis for this amendment can be found at paragraph [0040], which states:

> "A single fault on a specific resource will be protected by one or more detours. It is possible that further detours are present in the network that are not protecting the faulty resource and can therefore be released, i.e., all the detours are implemented at first and then some de-activated. When the faulty resource is identified and its location determined (e.g., by node diagnostics), it is possible to identify which detours are protecting the faulty resource and which ones not. The latter can then be released to allow them to carry other traffic and to protect other faults, if any, thus enhancing network resilience. This can be viewed as an early partial-deactivate: i.e., the de-activation of some detours before the fault is repaired."

This feature originally formed part of independent claim 45 but was deleted in the previous set of amendments, and has now been reinstated into independent claims 89 and 111. The feature has been slightly modified to include the statement of "...before the fault is repaired...". The prior art does not teach or suggest ***releasing the un-used protection paths once a fault is determined and before the fault is repaired***.

In a previous Official Action dated January 10, 2008, the Examiner contended that the feature of "de-activating any of the protection paths providing an alternative to those parts of the worker path not affected by the fault" was disclosed in U.S. Patent Publication No. 2002/0004843

to Andersson, et al. at page 3, paragraph [0048]. In the outstanding Official Action , the Examiner contends that claims 89- 97 and 111-119 are rejected as being obvious in light of the combination of Andersson, et al. and U.S. Patent Publication No. 2002/0172149 to Kinoshita, et al., and claims 98-110 and 120-132 are rejected as being obvious in light of the combination of the above references in view of *Computer Networks, A Systems Approach*, Section 4.2.2 by Larry L. Peterson, et al., 2nd edition, pages 284-292.

Andersson discloses recovery paths that are pre-computed for protecting various primary paths. The recovery paths are typically installed in the forwarding table at each relevant router along with the primary paths so that the recovery paths are available in the event of a network change. A fast detection mechanism is preferably used to detect a network change. Communications are switched over from a primary path to a recovery path in the event of a network change in order to bypass the network change. The recovery paths are typically marked as non-preferred or lower priority paths compared to the primary paths so that the primary paths, and not the recovery paths, are used for forwarding packets during normal operation. Specifically, in the normal state of operation, traffic flows on the primary paths, with recovery paths pre-positioned, but not in use.

Therefore, the recovery paths are pre-computed so as to circumvent potential failure points in the network, and are only activated in the event of a network failure. It is the primary paths, and **not** the recovery paths that are used for forwarding packets during normal operation.

The present invention provides a protection path comprising a plurality of disjoint detours and is beneficial, because it allows traffic to be easily switched back onto parts of the worker path when the location of a fault has been determined. Claims 89, 111, as amended, require "and

deactivating, before the fault is repaired, any of the protection paths for providing an alternative to those parts of the worker path not affected by the fault".

Contrary to the Examiner's assertion, it is respectfully submitted that Andersson does **not** disclose this feature. The Examiner is respectfully requested to re-read Andersson in light of the following comments.

Paragraphs [0041]-[0043] of Andersson describe that a network node typically computes various network routes which are maintained in a routing table. These routes are referred to as primary routes, and carry traffic during normal operation. The node also computes various recovery paths. Each primary path has a corresponding recovery path. If a primary path fails, then traffic on that path is switched onto its corresponding recovery path. If a primary path does not fail, then its traffic is not switched to a recovery path, but remains on the primary path (see paragraph [0048]). For the failed primary paths, the network node continues to use the recovery paths until it has calculated new primary paths. Then, new recovery paths are calculated. Finally, traffic is switched onto the new primary paths. [See paragraphs [0054]-[0056] and Figures 4, 5 and 6).

The Examiner asserts that Andersson discloses that traffic is switched back from a recovery path onto a primary path once a fault has been detected, and in particular the Examiner refers to paragraphs [0058] and [0100]. However, paragraph [0058] states that if a primary path has experienced a failure, then a new primary path is calculated for that path. Traffic is switched onto the new primary path from the recovery path. It is ***not*** switched back onto the original primary path, as required by the claimed invention.

It is noted that if a primary path did not experience a failure, then its traffic would not have been switched to a recovery path in the first place (see paragraph [0048]). In that case, again,

traffic would not be switched from a recovery path back onto a primary path. This is clarified in paragraph [0100], which states "traffic affected by the failure flows over the recovery path, while the rest of the traffic remains on the primary paths defined by the routing protocols or traffic engineering before the failure occurred". It is noted that the word "remains" means "stays" -- that is, the traffic that "remains on the primary paths" has never left those primary paths.

By contrast, the claimed invention requires that traffic on a worker path be switched to a protection path (which comprises a plurality of disjoint detours) on detection of a fault. Once the location of the fault has been identified, traffic is switched back onto at least part of the same worker path (if that part is not affected by the fault) from the detour that protects that part of the path. The remaining detours continue to protect the parts of the worker path that are affected by the fault and, before the fault is repaired, deactivating any of the protection paths for providing an alternative to those parts of the worker path not affected by the fault.

Andersson does not disclose or suggest such a partial deactivation of a recovery path or, before the fault is repaired, deactivating any of the protection paths for providing an alternative to those parts of the worker path not affected by the fault.

Kinoshita discloses, when setting up a working path, a protection path is automatically set up by taking each node on the working path as a start point. Also, paragraph [0071] discloses that by receiving the protection result notification 34 and path setup response message 36, as shown in Fig. 7, the ingress node A knows that all the protection paths have been set up. In this way, the working path 38 and the protection paths 40, 42, 44, and 46 are set up as shown in Fig. 8. Also, in Fig. 8, since there is no possibility that both the protection paths 44 and 46 will be used simultaneously, the protection paths can share the bandwidth on the link between the nodes

E and J. While Kinoshita does disclose the feature of "the protection path comprising a plurality of disjoint detours", it does ***not*** disclose or teach a partial deactivation of a recovery path or, before the fault is repaired, deactivating any of the protection paths for providing an alternative to those parts of the worker path not affected by the fault.

In view of the above, it is submitted that claims 89 and 111, and the claims dependent thereon, are both novel and inventive in view of the cited prior art, and that this application should now be in order for allowance.

Wherefore, a favorable action is earnestly solicited.

Respectfully submitted,

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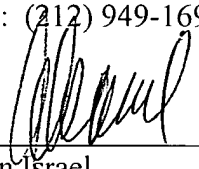

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